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A NEW *KATHROPERLA* SPECIES FROM WESTERN NORTH AMERICA (PLECOPTERA: CHLOROPERLIDAE)

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Abstract.—***Kathroperla takhoma,*** new species, is described from both sexes collected in California and Washington. Eggs of the species are compared with those of *K. perdita* (Banks) from scanning electron photomicrographs. Diagnoses are given for male and female *Kathroperla,* but nymphs of the two species are presently indistinguishable.

Banks (1920) proposed the genus *Kathroperla* for a unique species, *K. perdita,* known at that time from a single female from British Columbia. Needham and Claassen (1925) added the male description and Neave (1934) figured the nymph. Since these early studies, *Kathroperla* has been accepted as a distinctive, monotypic genus ranging from the Sierras and Cascades to the northern Rocky Mountains (Jewett, 1959; Baumann et al., 1977). However, some females from Washington and California and an associated male from Mt. Rainier are unlike other *Kathroperla* in the shape of the female subgenital plate and length of cercal segments, and eggs obtained from these females differ significantly from *Kathroperla* eggs described by Knight et al. (1965). Therefore, we are describing a new species on the basis of these specimens.

Kathroperla takhoma Stark and Surdick, New Species

Male.—Forewing length 15 mm, general coloration and elongate head similar to *K. perdita*; head dorsum yellow except for dark ocellar triangle and posterolateral dark stripes (Fig. 8). Tergum 10 with a pair of small posterior patches of sensilla basiconica located lateral to mesal sclerotized stripe; basal cercal segments about three times as long as wide (Fig. 1). Lateral margins of vesicle strongly convergent basally giving stalked appearance (Fig. 2); vesicle surface covered with small sensilla basiconica. Aedeagus bulbous with multiple membranous lobes and a curved pair of lateral sclerites; fine setae located in a ventrolateral band apically and more sparsely on lateral sclerites (Fig. 3).

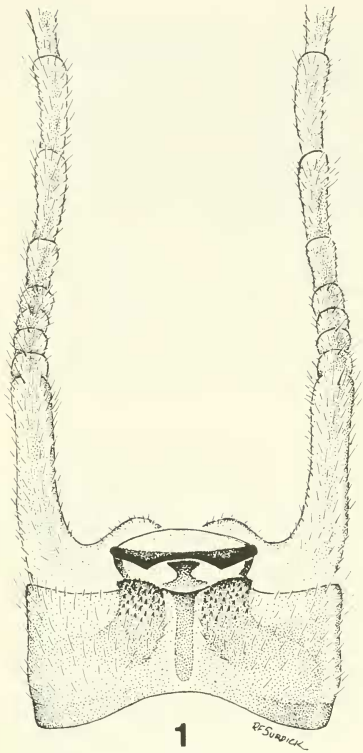
Female.—Forewing length 18 mm. Pigmentation and head shape similar to male; basal cercal segments three times as long as wide. Subgenital plate notched apically; lateral margins strongly convergent at apical third forming a distinctly offset apical tab (Fig. 4); apex of plate reaches posterior margin of sternum 9.

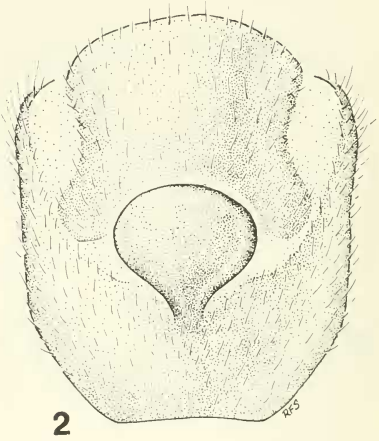
Egg.—Elongate, oval, length .3 mm, width .2 mm; collar absent (Fig. 10). Chorionic surface covered with scattered tuberculate projections; some projections arranged in irregular, poorly organized rows (Fig. 11); surface granular around projections. Micropyles set on projections in apical third of egg (Fig. 12).

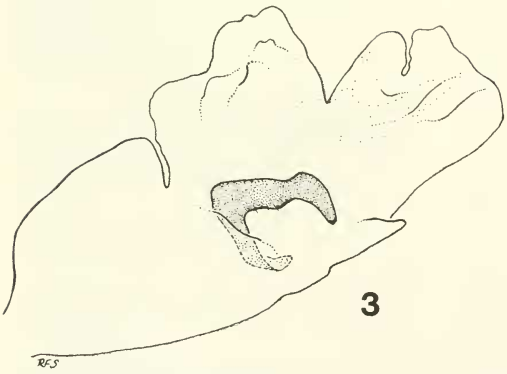
Nymph.—Presently indistinguishable from *K. perdita.*

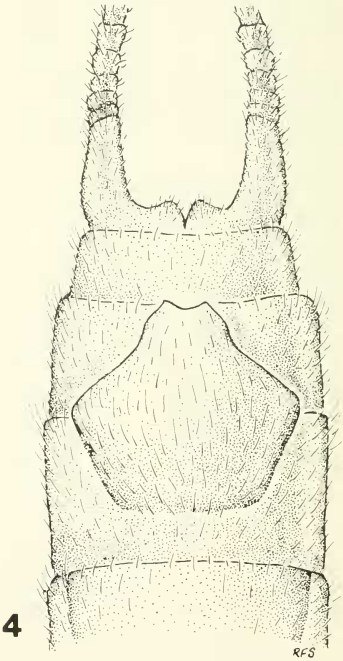
Etymology.—The species name, *takhoma,* a noun in apposition, is derived from the Yakima Indian name for Mt. Rainier.

Types.—Holotype ♀ and allotype ♂:

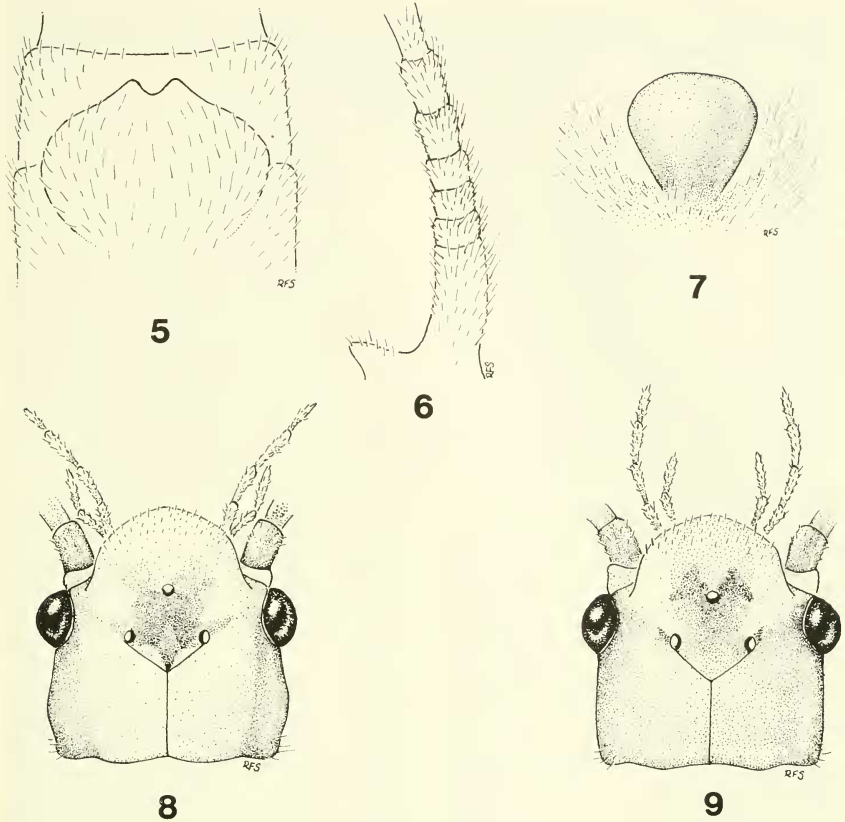








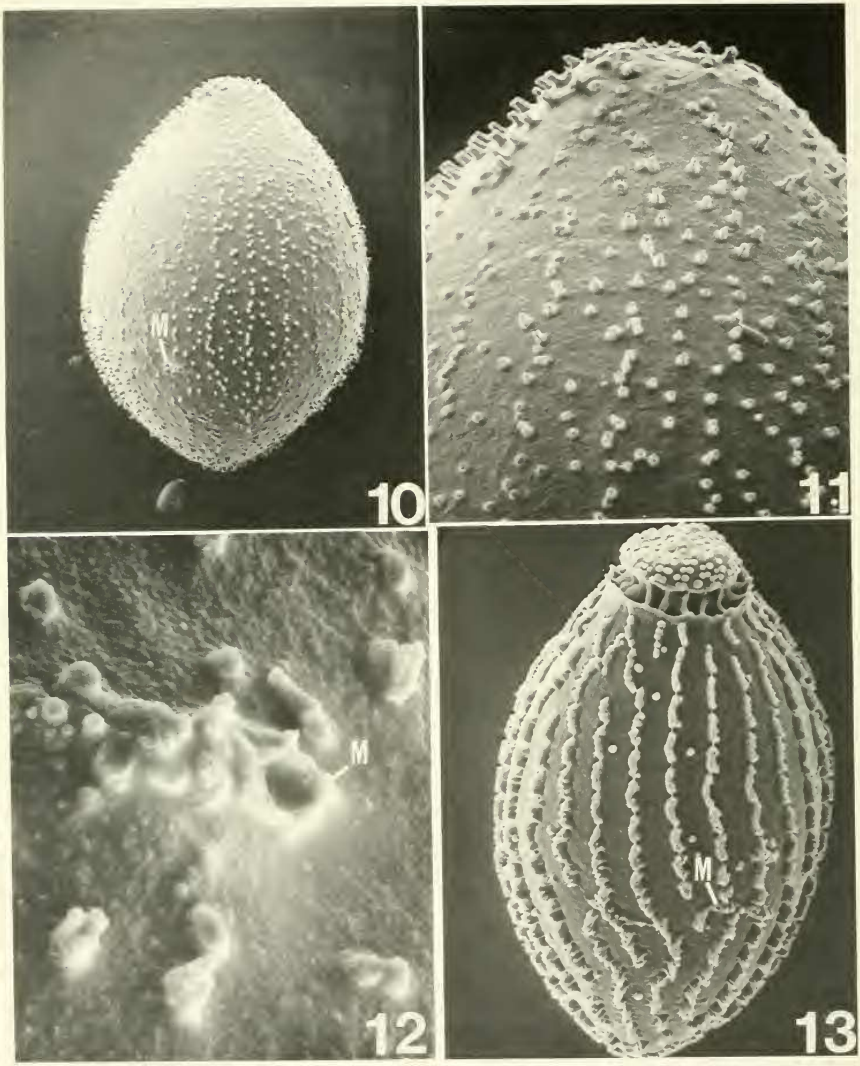
Figs. 1–4. *Kathroperla takhoma* genitalic structures. 1, Male terminalia, dorsal. 2, Male sternum 9 with vesicle. 3, Aedeagus, lateral (dorsum directed to right). 4, Female terminalia with subgenital plate.



Figs. 5–9. *Kathroperla* genitalic structures and color patterns. 5, *K. perdita* female subgenital plate. 6, *K. perdita* left side of male terminalia showing basal cercal segments. 7, *K. perdita* vesicle. 8, *K. takhoma* head. 9, *K. perdita* head.

WASHINGTON, Mt. Rainier National park, Falls Creek above junction Ohanapecosh River, Hwy. 706, 15-VI-69, R. W. Baumann. Holotype and allotype deposited in the United States National Museum of Natural History. Paratype: CALIFORNIA: Mendocino Co., Barnwell Creek, 15-IV-85, R. L. Bottorff, 1 ♀ reared (Stark collection).

Diagnosis.—The female of *K. takhoma* may be distinguished from that of *K. perdita* by the length and outline of the subgenital plate as well as by egg morphology. The subgenital plate of *K. perdita* does not reach the posterior margin of sternum 9 and the lateral margins are not abruptly convergent near the apex (Fig. 5) as they are in *K. takhoma* (Fig. 4). The two species are easily differentiated by their distinctive eggs. Eggs of *K. perdita* have a wide collar, and the tuberculate projections are organized into striations (Fig. 13), but eggs of *K. takhoma* lack a collar, and the tuberculations are scat-



Figs. 10–13. *Kathroperla* eggs. 10, *K. takhoma,* lateral aspect, 266×. 11, *K. takhoma,* anterior pole, 665×. 12, *K. takhoma* micropyle and chorionic detail, 2660×. 13, *K. perdita,* lateral aspect, 274×. (M = Micropyle.)

tered (Figs. 10, 11). Males are most easily distinguished by the cerci and by the shape of the vesicle. In *K. perdita,* the basal cercal segments are about twice as long as wide (Fig. 6) and the vesicle base, although tapered to about half the vesicle apex, is not stalk-like (Fig. 7). In *K. takhoma* males, the basal cercal segments are about three times long as wide and the vesicle is strongly convergent basally (Figs. 1, 2).

Adults are also distinguished by head and pronotal color patterns. In *K. takhoma,* the occiput is bright yellow posterior to the occipital suture except for dark lateral stripes (Fig. 8) and the lateral pronotal margins are yellow. In *K. perdita,* the occiput is uniformly dark (Fig. 9) and the lateral pronotal margins are dark. Needham and Claassen (1925) noted the distinctive color pattern typical of *K. takhoma* in a California female that they included in the description of *K. perdita.*

Specimens of *K. perdita* from the following localities were examined for this study: CALIFORNIA: El Dorado Co., North Cosumnes Riv. at Grizzly Flats; Tehama Co., no locality. MONTANA: Broadwater Co., Deep Creek; Flathead Co., Essex Creek, Autumn Creek; Lake Co., Yellow Bay Creek; Missoula Co., Rattlesnake Creek. OREGON: Douglas Co., Muir Creek. WASHINGTON: Mt. Rainier National Park, Stevens Creek below Lake Louise.

Acknowledgments

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